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Declaration Filed Under 37 CFR §1.132

I John Liu declare and say as follows:

1. I have a Bachelor of Science degree in Metallurgical Engineering from the University of Texas at El Paso, a Master of Science degree in Metallurgical and Materials Engineering from the University of Pittsburgh, and a Doctorate degree in Materials Engineering from Drexel University.
2. I have been continuously employed at Alcoa Inc. since 1978, where I am the Aerospace Technology Manager for the corporation.
3. I am a co-inventor of the invention claimed in patent application serial number 09/208,963 entitled "High Toughness Plate Alloy for Aerospace Applications".
4. It is a factual certainty that one of ordinary skill in the metallurgical art would know that the yield strengths in heat treatable aluminum alloys such as the 2xxx series aluminum alloys have lower yield strengths in a T351 temper when compared with the same alloy in a T39 temper.
5. As evidence for what is asserted in clause 4 above, typical average yield strengths were measured on the alloy of the present invention, and it was found in a T351 temper the L yield strength was 52.4 ksi from 10 lots averaged over 25 test results, the LT yield strength was 48.0 ksi from 10 lots averaged over 25 test results.
6. In comparison with the data presented in clause 5 typical average yield strengths were measured on the same alloy in clause 5 except it was in a T39 temper and showed the L yield strength of 66.1 ksi from 47 lots averaged over 156 test results and an LT yield strength of 61.1 ksi from 47 lots averaged over 156 test results.
7. As further evidence that one of ordinary skill in the art would know the consistent difference between the higher yield strengths of the T39 temper over the T351 attention is directed to Table 1 in the reference applied to the rejections to the claims of this application, U.S. Patent 5,865,914 ("914"), wherein the data shows that the yield strengths of the T39 are higher than the yield strengths of the T351.
8. One of ordinary skill in the metallurgical art also knows that the presence of the element zirconium as an alloying element acts to keep the alloy product substantially

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unrecrystallized as stated in the '914 reference and that without an agent to prevent recrystallization, aluminum alloys such as the 2xxx alloys will recrystallize after solution heat treatment and quenching.

9. With full knowledge of the penalties for perjury I assert that the above statements are true.

John Liu

John Liu

February 27, 2001

Date